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James C.H. Thi

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EXAMINER

JAMAL, ALEXANDER

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Response to Arguments

1. Applicant's arguments have been fully considered but they are not persuasive.

The examiner notes that applicant's figure 7 is read specifically in view of applicant's comments. The examiner is concerned that applicant's 'architectural concept' is misleading and does not give a clear picture of applicant's claimed device or the system in which it is implemented. The examiner maintains that the signal VN (signal 327) is **not the same signal** going into both the acoustic echo path and electrical echo path. Applicant's drawing is misleading and is not possible. Applicant has not explained how the same signal VN will be applied to two separate echo paths. The signal VN will have changed significantly by the time it reaches a completely separate echo path because it must travel through a communications line (the source of the disclosed electrical echo path) to another terminal which will output a signal through a speaker. **Each hybrid will not receive the same signal VN as shown in applicant's figure 7.**

As per applicant's argument that the specification enables the claimed parallel modeling of acoustical and electrical echo, the examiner disagrees. Applicant's specification describes that the device models multiple echo paths in parallel, but applicant's specification does not disclose any algorithm that can model both the electrical echo at a hybrid, and model the echo of the signal going through the hybrid,

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across a communications medium, through the interface of another device, out of a speaker, picked up as acoustical echo, and transmitted back through the interface, communications medium, hybrid.

It is not clear how the claimed acoustic echo modeling stage would take into account the electrical communications medium, and the far end terminal interface into the echo estimation.

It further is not clear how the claimed acoustic echo modeling stage would differentiate between the acoustic echo and the electrical echo when trying to model the acoustic echo.

The examiner requested applicant to explain both of these things in the examiner's interview, but applicant's still have not shown how the specification enables the claimed device performing either function.. Applicant argues that the claims do not recite differentiating between the types of echo, however the examiner notes that the claims recite parallel modeling of two distinct echoes. However, the device as shown by applicant will receive both those echoes from the same point. There is n adaptive algorithm shown that will be able to differentiate between the two types of echoes when they are received at the same point. The disclosed adaptive algorithms will not be able to perform the claimed modeling in parallel if there is no way to differentiate one type of echo from another.

Applicant states that the disclosed adaptive algorithm would take into account the complete transmission path for the signal which creates the acoustic echo, however applicant's specification does not even give any complete adaptive algorithms , much less

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an algorithm that would be able to model acoustic echo in the system described in the specification. The NLMS algorithm cited by applicant **would not be able to recognize the acoustic echo path in the system shown in applicant's figure 7**. The cited adaptive algorithm would not be able to differentiate between reflections from the electrical hybrid, transmission line, far end terminal, and the actual acoustic echo that it is trying to model.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498, and whose email address is alexander.jamal@uspto.gov

The examiner can usually be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone or email are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499.

The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Primary Examiner, Art Unit 2614

Examiner Alexander Jamal

July 27, 2009

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